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T6

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/512,942 02/25/00 FEDYNYSHYN

T 101328-148

EXAMINER

021125 IM22/0629
NUTTER MCCLENNEN & FISH LLP
ONE INTERNATIONAL PLACE
BOSTON MA 02110

CHU, J

ART UNIT

PAPER NUMBER

1752

DATE MAILED:

06/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

| | | | |
|------------------------------|-----------------|-------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/512,942 | FEDYNYSHYN, THEODORE H. | |
| | Examiner | Art Unit | |
| | John S. Chu | 1752 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 200.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 20) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office action is in response to the application filed February 25, 2000.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by

USHIROGOUCHI ET AL.

The claimed invention is drawn to a positive photosensitive resist composition comprising a resin binder and an encapsulated inorganic material.

See column 16, TABLE 2 Resist No. 6. The resist comprises a resin, spherical silica and a photoacid generator from Table 1.

3. Claims 1,6,9-11,14 are rejected under 35 U.S.C. 102(b) as being anticipated by

MAINTHIA.

See Example X in column 10, which discloses a composition comprising a silica and meets the claimed encapsulated inorganic material.

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4. Claims 1 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by DENZINGER ET AL.

See Example 1 in column 13, line 15-25, which discloses silica gel filler in a photosensitive composition.

5. Claims 1,5,6,9,10,12,13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by ELSAESSER ET AL.

Example 1 discloses a photosensitive composition comprising 1.0% silica gel particles which meets the claimed encapsulated inorganic material. Applicants are further directed to column 6, lines 56-60 that discloses a 1,2-naphthoquinonediazide polycondensate of pyrogallol/acetone. This disclosure meets claim 5 for the DNQ novolak binder.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over OTA ET AL.

OTA ET AL discloses a positive photoresist composition comprising a novolak resin, an acrylic resin, a quinonediazide and a solvent. Applicants are directed to column 8, lines 44-62, which discloses the use of a filler wherein the recited inorganic components include silica, alumina and titanium oxide.

OTA ET AL fails to explicitly disclose the use of one of the fillers in an example, however they do clearly suggest their use to provide the needed properties to composition, such as a viscosity modifier.

It would have been *prima facie* obvious to one of ordinary skill in the art of photosensitive compositions to use a filler such as silica, alumina or titanium dioxide and reasonably expect same or similar results with respect to good adhesion.

Motivation is based on the desire to increase the viscosity or alter the color of the photosensitive composition.

8. Claims 1-17 rejected under 35 U.S.C. 103(a) as being unpatentable over KAWAMURA ET AL.

KAWAMURA ET AL discloses a photosensitive composition comprising a resin binder and inorganic particles as seen in column 25, lines 24 – 55 wherein the particles are present in an amount of 2 to 90% by volume.

KAWAMURA ET AL lacks the specific use of alumina or titanium dioxide in an example compositions.

It would have been *prima facie* obvious to one of ordinary skill in the art of photosensitive compositions to use either of alumina or titanium dioxide and reasonably expect same or similar results as those compositions which have improved sensitivity and discrimination.

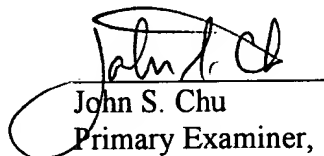
Motivation is based on the desire to provide good sensitivity and contrast.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Chu whose telephone number is (703) 308-2298. The examiner can normally be reached on M-F from 9:30 am to 6:00 pm.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


John S. Chu
Primary Examiner, Group 1700

J.Chu
June 27, 2001